

REPRINT

Work Order ID 162543

162543

Page 1

Monday, September 11, 2017 12:56:40 PM

Item ID: D350-748-203

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: AS350 / AS355 Stainless Steel Aft Crosstube

Start Date: 6/16/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/30/2017 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: um Date: SEP 11 2017

Tooling:

Date:

Run Start

NR1

QC: Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D350-748-243	A
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100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPPD350-748-201 CHG001

DAS
27
9-89

SEP 19 2017

110

0.79

110

BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

1.12

CNC Alpha 160 Bender

Bend tube as per Dwg D350-748-243 using CNC bender program D350A and Folio FT

*****UNDER BEND .225" PER SIDE*****

USE (4) DT9824 SHIM BLOC TO CHECK STRAIGHTNESS

Tu 17-07-24
GD

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : ☐									

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Cust Item ID:

Required Date: 6/30/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
127	QC15- Crosstube Dimensional Check	0.00							
127									
QC	Memo	0.00							DAS 9 9-89
Quality Control	***MARK CUT LINES***								
128		0.00							
128									
Crosstubes	Memo	1.80							
Crosstubes	CUT TUBE AT HEIGHT ON FAI SHEET								
	VERF HEIGHT <u> <i>JA</i> </u> BY QC 15 LEVEL INSPECTOR <u> <i>DAS</i> </u>								
	VERF TWIST <u> <i>JA</i> </u> BY QC15 LEVEL INSPECTOR <u> <i>9-89</i> </u>								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER :									

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Revision ID: Stop ***NS2***
Item Name: AS350 / AS355 Stainless Steel Aft Crosstube
Start Date: 6/16/2017 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 6/30/2017 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

130

Crosstubes

Crosstubes

Crosstubes

Memo

1.69

2- Drill Tube as per Dwg D350-748-243 Using DT8876 Drill Jigs,
Set-up drill table as per QSI 010

3 -Deburr

4- Engrave Part # and Batch # as per Dwg D350-748-243

5-Remove all marks from tube within limits of D350-748-243

DPZ 17-09-14GP 17-09-12

140

140

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

① 17-09-11DAS
9
9-89

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER :							
Misidentified ☐	☐	Past Due								

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Required Date: 6/30/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
174 *174* Outsource2 Outsource process - NDT	Outsource process - NDT per QSI038 4.1 Memo ISSUE P/O TO ACCUREN: <u>37253</u>	0.00 48.00				<u>1</u>		SEP 12 2017	DAS 13 9-89
176 *176* Packaging Packaging	Receive & Inspect for Damage & Mat'l Certs Memo	0.00 0.00				<u>1</u>		SEP 12 2017	DAS 13 9-89
178 *178* QC Quality Control	<u>QC</u> - Inspect part completeness to step on W/O Memo	0.00 0.00				<u>1</u>	<u>17.09.12</u>		DAS 9 9-89

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Spray Painting per QSI005 4.2	0.00							DAS
180	SprayPaint					1			41
									9-89

SprayPaint
Spray Painting**Memo**

0.45

VERIFY BY DAS BATCH # TO MATCH W/O162543 41VERIFY BY 9-89 PART # TO MATCHW/O 162543

MASK SCRIBE B# & P# AND VERIFY

1. Apply Axalta 13205S Cleaner inside and outside crosstube per QSI 005 4.1.4

BATCH: 138520

2. Axalta 230S Metalok inside and outside crosstube per QSI 005 4.1.4

BATCH: 138021

3. Prime inside and outside crosstube per QSI 005 4.2

BATCH: 137487

4. Paint outside of crosstube per QSI 005 4.2

BATCH: 138396

SEP 14 2017

DQA: _____ Date: _____



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Misidentified ☐	Past Due ☐																																																																

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC14- Inspect Spray Paint	0.00							
190									
QC	Memo	0.00							
Quality Control	Then, Wrap in plastic bag to protect from scratches								
	***VERIFY BY <u>BD</u> BATCH # TO MATCH W/O								
	***VERIFY BY <u>BD</u> PART # TO MATCH								
	W/O _____								

① 17.09.13 BD

DQA: _____ Date: _____



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Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
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Past Expiry Date ☐	Manufacturing Process ☐								
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Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200		0.00							
200	Crosstubes					1			DAS 41 9-89
Crosstubes	Memo	0.56							
Crosstubes	INSTALL GROUND WIRE INSERT, THEN INSERT SCREW AND WASHER								SEP 14 2017
	LIMIT AIR PRESSURE TO 50 PSI WHEN INSTALLING AETC-1032 INSERT AND ONLY EXPAND INSERT ONCE								
	1-Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg								
	2-Install supports with Proseal 890 per D350-748-243 and QSI 015								
	A/R	Proseal 890	Batch:	138408					
			EXP:	10/17					
	3-Install supports clamps Using Dt8876 as per Dwg D350-748-243,Torque to 60-80 IN-LBS.								
	PROSEAL CURE TIME 72 HOURS:								
	Start:	17-9-14							
	Finish:	17-9-17							

DAS
41
9-89
SEP 14 2017

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Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 162543

Monday, September 11, 2017 12:56:41 PM

162543

Page 8

Item ID: D350-748-203 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: AS350 / AS355 Stainless Steel Aft Crosstube
Start Date: 6/16/2017 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 6/30/2017 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC5- Inspect part completeness to step on W/O	0.00							
210									
QC	Memo	0.00							
Quality Control	***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.***								
	***VERIFY BY <u>PD</u> BATCH # TO MATCH W/O								
	***VERIFY BY <u>PD</u> PART # TO MATCH W/O _____								
220	Pick Kit	0.00							
220									
Packaging	Memo	0.00							
Packaging									

SEP 11 2017

DAS 6 9-28

DAS 28 9-28

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Work Order ID 162543

162543

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Item ID: D350-748-203 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: AS350 / AS355 Stainless Steel Aft Crosstube
 Start Date: 6/16/2017 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 6/30/2017 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	QC4- 100% Inspect kits for completeness	0.00							
230									
QC	Memo	0.00							
Quality Control	***VERIFY BY <u>DAS</u> <u>162543</u> <u>27</u> <u>9-89</u> BATCH # TO MATCH W/O								
	***VERIFY BY <u>DAS</u> <u>162543</u> <u>27</u> <u>9-89</u> PART # TO MATCH								
	W/O								
240	Identify as per dwg & Stock Location: _____	0.00							
240	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-748-203								
	Location: _____								
	PPP Rev: <u>sold</u>								
250	QC21- Final Inspection - Work Order Release	0.00							
250									
QC	Memo	0.00							
Quality Control									

SEP 19 2017

SEP 19 2017

17/9/20

SEP 19 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐				

Picklist Print

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Page 1

Work Order ID: 162543

162543

Parent Item: D350-748-203

D350-748-203

Parent Item Name: AS350 / AS355 Stainless Steel Aft Crosstube

Start Date: 6/16/2017

Required Date: 6/30/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 15.03.23 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D350-748-243TRN		Manufactured	No			110	Each	1.0000	1	1	DAS 41 9-89		
D350-748-243TRN									**			SEP 14 2017	
Crosstube Installation, High Aft													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG014				1					
					151840			1		<u>144879</u>			
D3502-1		Manufactured	No			220	Each	84.0000	2	2	DAS 41 9-89		
D3502-1									**			SEP 14 2017	
Support													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG052				84					
				158881				2		<u>158881</u>			
				161764				22					
				163478				40					
				163847				20					
D5123-7		Manufactured	No			220	Each	166.0000	2	2	DAS 41 9-89		
D5123-7									**			SEP 14 2017	
Clamp Cushion													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG052				166					
				153236				66		<u>152</u>			
				163264				100					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

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Work Order ID: 162543

162543

Parent Item: D350-748-203

D350-748-203

Parent Item Name: AS350 / AS355 Stainless Steel Aft Crosstube

Start Date: 6/16/2017

Required Date: 6/30/2017

Start Qty: 1.00

Required Qty: 1.00

AETC-1032

Purchased

No

220

Each

52.0000

1

1

DAS

41

9-89

SEP 14 2017

AETC-1032

Insert

Location

Loc Qty

Loc Code

LG050

2

m133732

2

ST554

50

m137335

50

NAS1149C0363R

Purchased

No

220

Each

277.0000

1

1

DAS

41

9-89

SEP 14 2017

NAS1149C0363R

Washer

Location

Loc Qty

Loc Code

FP001

55

m133077

55

GA

6

m133077

6

ST266

216

m137495

16

m138326

200

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified ☐	☐	Past Due	☐				

Picklist Print

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Work Order ID: 162543

162543

Parent Item: D350-748-203

D350-748-203

Parent Item Name: AS350 / AS355 Stainless Steel Aft Crosstube

Start Date: 6/16/2017

Required Date: 6/30/2017

Start Qty: 1.00

Required Qty: 1.00

MS21920-20

Purchased

No

220

Each

152.0000

2

2

MS21920-20

Clamp

DAS
41
9-89

SEP 14 2017

Location

Loc Qty

Loc Code

FG

2

122254

2

LG050

148

m137587

50

m137820

25

m137963

23

m138246

50

LG056

2

m128650

1

m132675

1

137710

MS51958-63

Purchased

No

220

Each

86.0000

1

1

MS51958-63

Screw

DAS
41
9-89

SEP 14 2017

Location

Loc Qty

Loc Code

ST267

86

m134962

86

NAS1149D0563J

Purchased

No

220

Each

1,364.000

8

8

NAS1149D0563.J

Washer

DAS
6
9-89
SEP 11 2017
28
9-89

Location

Loc Qty

Loc Code

GA

36

m135774

36

ST263

1328

m138040

628

m138209

700

137587

DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : ☐									

Picklist Print

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Page 4

Work Order ID: 162543

162543

Parent Item: D350-748-203

D350-748-203

Parent Item Name: AS350 / AS355 Stainless Steel Aft Crosstube

Start Date: 6/16/2017

Required Date: 6/30/2017

Start Qty: 1.00

Required Qty: 1.00

MS21042L4

Purchased

No

220

Each

2,137.000

24

24

MS21042L4

Nut

**

DAS
28
9-89

Location

Loc Qty

Loc Code

FP001

10

m133363

10

OVER007

1000

m138170

500

m138230

500

ST303

1127

m138084

127

m138326

1000

DAS
6
9-89

SEP 11 2017

137980

DAS
27
9-89

MS21042L5

Purchased

No

220

Each

405.0000

4

4

MS21042L5

Nut

**

DAS
6
9-89

DAS
28
9-89

SEP 11 2017

Location

Loc Qty

Loc Code

GA

10

m127813

10

ST303

395

m137587

4

m137963

91

m138209

200

m138336

100

137587

DAS
27
9-89

AN4-41A

Purchased

No

220

Each

310.0000

8

8

AN4-41A

Bolt

**

DAS
6
9-89

DAS
28
9-89

SEP 11 2017

Location

Loc Qty

Loc Code

over003

200

m137951

125

m138045

75

ST342

110

m137544

110

137464

DAS
27
9-89

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Shop Packet Print

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

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Work Order ID: 162543

162543

Parent Item: D350-748-203

D350-748-203

Parent Item Name: AS350 / AS355 Stainless Steel Aft Crosstube

Start Date: 6/16/2017

Required Date: 6/30/2017

Start Qty: 1.00

Required Qty: 1.00

D3501-1 Manufactured No

220 Each 477.0000 16 16

D3501-1

Bushing

SEP 14 2017

DAS
28
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

ST038

187

163502

187

ST038A

290

163863

200

164461

90

161783

NAS1149D0463J

Purchased No

220 Each 2,091.000 32 32

NAS1149D0463.J

Washer

SEP 11 2017

DAS
28
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

451

M135056

40

M137699

411

Return2017

16

M136665

16

ST263

1624

M137988

600

M138084

27

M138230

997

137699

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Page 6

Monday, September 11, 2017 12:56:40 PM

Work Order ID: 162543

162543

Parent Item: D350-748-203

D350-748-203

Parent Item Name: AS350 / AS355 Stainless Steel Aft Crosstube

Start Date: 6/16/2017

Required Date: 6/30/2017

Start Qty: 1.00

Required Qty: 1.00

AN5-32A	Purchased	No	220	Each	268.0000	4	4
---------	-----------	----	-----	------	----------	---	---

AN5-32A

Bolt

**

Location	Loc Qty	Loc Code
over004	185	
m137951	75	
m138045	50	
m138207	60	
ST336	83	
127363	4	
m137853	79	

137464

DAS
6
9-89

SEP 11 2017

D3500-1	Manufactured	No	220	Each	141.0000	4	4
---------	--------------	----	-----	------	----------	---	---

D3500-1

Saddle

**

Location	Loc Qty	Loc Code
ST403	81	
163361	41	
164916	40	
ST406	60	
158741	16	
162429	20	
163822	24	

158741

DAS
6
9-89

SEP 11 2017

AN4-6A	Purchased	No	220	Each	855.0000	16	16
--------	-----------	----	-----	------	----------	----	----

AN4-6A

BOLT

**

Location	Loc Qty	Loc Code
over003	700	
M138045	500	
M138207	200	
ST345	155	
M137951	155	

137464

DAS
6
9-89

SEP 11 2017

Monday, September 11, 2017 12:56:40 PM

Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER :									



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37253**

Purchase Order Date 7/28/2017

PO Print Date 9/12/2017

Page Number 4 of 5

Order From :
VC-SKY001
SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905-678-5636

Ship To Contact
Ship To Phone
Ship Via: Delivered
Ship Acct:

Buyer Diane Baker
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA – (Free Carrier)

						Line Total:	\$147.50
10	162543	D350-748-203	7/28/2017 Yes 7/28/2017	1.00	LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	\$147.50	\$147.50
						Line Total:	\$147.50
11	159000	D350-748-103	7/28/2017 Yes 7/28/2017	1.00	LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	\$147.50	\$147.50
						Line Total:	\$147.50
12	158999	D350-748-103	7/28/2017 Yes 7/28/2017	1.00	LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	\$147.50	\$147.50

Note:

9/12/2017



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37253**

Purchase Order Date 7/28/2017

PO Print Date 9/12/2017

Page Number 5 of 5

Order From :
SKYSERVICE
6120 MIDFIELD ROAD
MISSISSAUGA, ONTARIO L5P 1B1
CANADA

VC-SKY001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 905-678-5636

Ship To Contact

Ship To Phone

Ship Via: Delivered

Ship Acct:

Buyer

Diane Baker

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA – (Free Carrier)

Line Total: \$147.50

13	71401-45	procurement quality clauses	7/28/2017	1.00	\$0.00	\$0.00
			No			
			7/28/2017			

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A024 process certifications

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

Line Total: \$0.00

PO Total: \$1,770.00

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 6

Change Date: 9/12/2017



skyservice Work Order Traveler

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO32803	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference:
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT INSPECTION (LIQUID PENETRANT) ON 12 CROSSTUBES

ITEM ID: D350-748-103 AS350/AS355 STAINLESS STEEL FWD CROSSTUBE (QTY2)

1 - WORK ORDER ID#: 159000

2 - WORK ORDER ID#: 158999

ITEM ID: D350-748-203 AS350/AS355 STAINLESS STEEL AFT CROSSTUBE (QTY2)

3 - WORK ORDER ID#: 162542

4 - WORK ORDER ID#: 162543

6017-7-31

ITEM ID: D206-667-207BL AFT CROSSTUBE - MID HRIGHT 206L/L 1/L3/L4, BLUE (QTY 4)

5 - WORK ORDER ID#: 161173

6 - WORK ORDER ID#: 161177

7 - WORK ORDER ID#: 161174

8 - WORK ORDER ID#: 161175

ITEM ID: D206-667-207BL AFT CROSSTUBE - MID HRIGHT 206L/L 1/L3/L4, BLUE (QTY 4)

09 - WORK ORDER ID#: 162192

10 - WORK ORDER ID#: 162189

11 - WORK ORDER ID#: 162190

12 - WORK ORDER ID#: 162191

Action Taken:		Date:	Initial/Stamp:		
LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-12) AS PER ASTM1417M-13		JUL 28 2017	DOT-APP 61 53-89 J		
NO CRACK FOUND					
Pen: ZL-27A MWO5678 DEV: SKD-S2 MPO11715 CLEANER: SKC-S MPO13923					
Description	Location P/N	Qty	Batch	S/N Off	S/N On

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp	Date:
Name: ANTONINO MARCHETTA	DOT-APP 61 53-89	JUL 28 2017

Reason	Parent Item ID	Lot Qty	Lot Nbr	Lot Trans Date
	162543 AETC-1032	-1	m133732	8/3/2017 16:43
	162543 AN4-41A	-8	m137464	8/9/2017 9:49
	162543 AN4-6A	-16	M137464	8/9/2017 9:49
	162543 AN5-32A	-4	m137464	8/9/2017 9:49
	162543 D3500-1	-4	158741	8/9/2017 9:49
	162543 D3501-1	-16	161783	8/9/2017 9:49
	162543 D3502-1	-2	158881	8/3/2017 16:43
	162543 D350-748-243TRN	-1	144979	7/24/2017 15:15
	162543 D5123-7	-2	153236	8/3/2017 16:43
	162543 MS21042L4	-24	m137988	8/9/2017 9:49
	162543 MS21042L5	-4	m137587	8/9/2017 9:49
	162543 MS21920-20	-2	m137710	8/3/2017 16:43
	162543 MS51958-63	-1	m134962	8/3/2017 16:43
	162543 NAS1149C0363R	-1	m137495	8/3/2017 16:43
	162543 NAS1149D0463J	-32	M137699	8/9/2017 9:49
	162543 NAS1149D0563J	-8	m137587	8/9/2017 9:49

Work Order Summary

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Criteria : Work Order ID: 162543 Item ID: D350-748-203 Product Family CROSSTUBES
 Work Order Start Dates 6/16/2017 to 6/16/2017 11:59:59 PM Work Order Required Dates 6/30/2017 to 6/30/2017 11:59:59 PM
 All References
 Work Order Status Released

Work Order ID	162543	Required Qty	1.0000	Status Code	Released
Item ID	D350-748-203	Accepted Qty	0.0000	Scrap Qty	0.0000
Item Name	AS350 / AS355 Stainless Steel Aft Crosstube				
Current Acct Value	\$5,269.461				
Start Date	6/16/2017	Required Date	6/30/2017	Completed Date	
Standard	** Actual **	** Acct. Value **	** Variance **	** Variance % **	
Direct Costs	Total	Each	Each	Each	Each
Material	\$2,171.707	\$0.000	\$2,225.392	\$2,225.392	100.00%
Labor	\$824.569	\$0.000	\$920.744	\$920.744	100.00%
Outplant	\$113.664	\$0.000	\$135.983	\$135.983	100.00%
Variable Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
Fixed Burden	\$1,638.677	\$0.000	\$2,064.127	\$2,064.127	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$4,748.617	\$0.000	\$5,346.245	\$5,346.245	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
PO ID	PO Line Nbr	PO Receiver Date	Domestic Unit Price	PO Receipt Qty	Domestic Received Amt
AETC-1032					
Insert PO Rout Seq ID	PO Vendor ID	VC-SKY001			
AN4-6A	10	7/31/2017 1:10:15 PM	\$113.6635	1.0000	\$6.550
Bolt					
	8.0000			8/9/2017	8.0000
AN4-6A					
BOLT					
	16.0000			8/9/2017	16.0000
AN5-32A					
Bolt					
	4.0000			8/9/2017	4.0000
D3500-1					
Saddle					
	4.0000			8/9/2017	4.0000
D3501-1					
Bushing					
	16.0000			8/9/2017	16.0000
D3502-1					
Support					
	2.0000			8/3/2017	2.0000
D350-748-243TRN					
Crosstube Installation, High Aft					
	1.0000			7/24/2017	1.0000
D5123-7					
Clamp Cushion					
	2.0000			8/3/2017	2.0000
MS21042L4					
Nut					
	24.0000			8/9/2017	24.0000

Monday, September 11, 2017 1:02:16 PM

Work Order Summary

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MS21042L5

Nut

4.0000

8/9/2017

4.0000

\$1.280

MS21920-20

Clamp

2.0000

8/3/2017

2.0000

\$10.357

MS51958-63

Screw

1.0000

8/3/2017

1.0000

\$0.082

NAS1149C0363R

Washer

1.0000

8/3/2017

1.0000

\$0.090

NAS1149D0463J

Washer

32.0000

8/9/2017

32.0000

\$0.925

NAS1149D0563J

Washer

8.0000

8/9/2017

8.0000

\$0.240

Total Matl Amts: \$4,002.620**Invoice Rout Seq ID****Invoice Vendor ID**

VC-SKY001

Invoice ID**Invoice Line Nbr****Invoice Date****Invoice Unit Price****Invoice Qty****Invoice Amt**

MWQ32589

10

8/4/2017 4:16:18 PM 95.44716

1.0000

\$95.447

Work Center CNC Bend 2**Employee ID****Rout Seq ID****Labor Date****Setup Hours****Actual Setup Hours****Labor Hours****Actual Labor Hours****Nbr of WOs****Setup Amount****Labor Amount****Fix Burd Amount****Var Burd Amount****Total Amounts**

pain01

7/17/2017

110

1.47

0.49

0.00

0.00

3.00

\$9.105

\$0.000

\$30.015

\$0.000

\$39.120

7/24/2017

110

0.00

0.00

1.23

1.23

1.00

\$0.000

\$22.918

\$75.546

\$0.000

\$98.464

whit01

7/24/2017

110

0.00

0.00

1.23

1.23

1.00

\$0.000

\$22.866

\$75.374

\$0.000

\$98.240

Total:

1.47

0.49

2.46

2.46

5.00

\$9.105

\$45.784

\$180.935

\$0.000

\$235.824

Work Center Crosstubes**Employee ID****Rout Seq ID****Labor Date****Setup Hours****Actual Setup Hours****Labor Hours****Actual Labor Hours****Nbr of WOs****Setup Amount****Labor Amount****Fix Burd Amount****Var Burd Amount****Total Amounts**

pain01

7/25/2017

130

0.00

0.00

1.06

1.06

1.00

\$0.000

\$19.624

\$64.687

\$0.000

\$84.311

paul01

7/25/2017

130

0.00

0.00

0.57

0.57

1.00

\$0.000

\$10.509

\$34.642

\$0.000

\$45.151

128			0.00	0.00	3.42	0.85	4.00	\$0.000	\$15.876	\$52.335	\$0.000	\$68.211
SHEL02												
	8/2/2017											
200			0.00	0.00	0.47	0.23	2.00	\$0.000	\$4.358	\$14.367	\$0.000	\$18.726
	8/3/2017											
200			0.00	0.00	0.59	0.59	1.00	\$0.000	\$10.957	\$36.118	\$0.000	\$47.075
whit01												
	7/25/2017											
130			0.00	0.00	0.58	0.58	1.00	\$0.000	\$10.771	\$35.506	\$0.000	\$46.277
Total:			0.00	0.00	6.67	3.88	10.00	\$0.000	\$72.095	\$237.655	\$0.000	\$309.750

Work Center SprayPaint

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
SHEL02												
	7/31/2017											
180			0.00	0.00	3.23	0.81	4.00	\$0.000	\$15.004	\$49.458	\$0.000	\$64.461
180			0.00	0.00	1.12	0.28	4.00	\$0.000	\$5.190	\$17.108	\$0.000	\$22.298
Total:			0.00	0.00	4.35	1.09	8.00	\$0.000	\$20.193	\$66.565	\$0.000	\$86.759